



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,921	08/18/2003	Rodney L. Kirstine	2269-5659US (02-1364.00/U)	3659
24247	7590	06/02/2005		EXAMINER GUADALUPE, YARITZA
TRASK BRITT P.O. BOX 2550 SALT LAKE CITY, UT 84110			ART UNIT 2859	PAPER NUMBER

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/642,921	KIRSTINE, RODNEY L.
	Examiner	Art Unit
	Yaritza Guadalupe McCall	2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 02 May 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-44 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

In response to Request for Continued Examination filed May 2, 2005

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 14, 16 – 21, 24 – 28 and 30 – 44 are rejected under 35 U.S.C. 102 (b) as being anticipated by Dunlavey (US 3,528,002).

Dunlavey discloses an apparatus for determining at least one dimensional value of a substantially planar substrate (20) comprising a carrier (22) configured for holding and positioning a substantially planar substrate (20) in a plane and having first and second substantially planar opposed surfaces parallel to the plane; a first linear measuring device (70) including a first movable caliper finger disposed on one side of the plane for measuring a first linear distance from a common zero point location to the first surface of the substrate along an axis substantially normal to the first and second surfaces; a second linear measuring device (80) located directly opposite the first surface and including a second movable caliper finger disposed on an opposing side of the plane for measuring a second linear distance from the common zero

Art Unit: 2859

point location to the second surface of the substrate along the axis generally normal to the first and second surfaces, the second movable caliper finger being coaxial with the first movable caliper finger, the common zero point location being a location of the end of the first linear measuring device wherein the end of the first linear measuring device is in axial contact with an end of the second linear measuring device; and a calculation device (See Column 5, lines 10 - 14) for calculating the first and second linear distances.

Dunlavey further discloses the carrier (22) configured to move the substrate within the plane between the first and second movable caliper fingers (See Figures 1 and 3) allowing the carrier to move the substrate in at least one direction parallel to the plane, wherein said carrier continuously moves the substrate between the first and second movable caliper fingers while in contact therewith so as to allow continuous and simultaneous measurements by the calculation device. Dunlavey also discloses said first and second linear measuring devices comprising linear displacement transducers (70, 80).

Dunlavey also discloses the first and second movable caliper fingers each including terminal contact members for contacting the respective first and second surfaces of the substrate, and wherein the first and second linear measuring devices are capable and configured to provide a zero point value as a linear distance for each of the first and second movable caliper fingers with the terminal contact members in axial contact with each other for use by the calculation device in calculating the first and second linear distances.

Dunlavey also discloses the contact members comprising one of smooth-surfaced enlargements at the terminal ends of the caliper fingers, each biased toward the plane (See Columns 3 and 4, lines 70 – 75 and 1 – 9 respectively). Dunlavey discloses an apparatus configured to measure the first linear distance and the second linear distance from the common zero point location in at least three different locations along two different planes (See Figure 1) on the first and second surfaces of the substrate in association with movement of the substrate by the carrier in the at least one direction, wherein the calculation device is configured to determine at least one characteristic of the substrate from at least some of the measurements at the at least three different locations (See Column 4, lines 28 – 50).

Dunlavey further discloses an apparatus for determining at least one dimensional value of a substantially planar substrate (20) comprising at least one complementary set of linear measuring devices (70, 80) including movable caliper fingers, each of the at least one set comprising first and second coaxial, opposing, movable caliper fingers with mutually facing terminal ends; structure for biasing (See Column 7, lines 1 – 25) each of the first and second coaxial, movable caliper fingers toward one another; a first contact member (70) on the terminal end of the first caliper finger; a second contact member (80) on the terminal end of the second caliper finger; wherein the at least one complementary set of linear measuring devices is configured to provide a common zero point location value as a linear distance for each movable caliper finger with contact members of the first and second coaxial, opposing, movable caliper

fingers in mutual contact defining a zero point and to provide displacement values for each movable caliper finger when displaced away from the zero point.

Dunlavey further teaches a carrier (22) for holding, positioning and moving a substantially planar substrate in at least one direction parallel to a plane perpendicular to the movable caliper fingers of the at least one complementary set of linear measuring devices to pass the substantially planar substrate therebetween and configured to move the substantially planar substrate parallel to the plane continuously (See Figure 1); and a device (See Column 7, lines 26 – 27) for receiving common zero point values and displacement values and calculating at least one dimensional value associated with the substantially planar substrate (See Column 7 ,lines 26 – 27).

Dunlavey teaches the carrier configured to move the substantially planar substrate continuously between the movable caliper fingers while in contact therewith by means of support (posts supporting carrier 22), wherein the device for receiving common zero point values and displacement values and calculating at least one dimensional value associated with the substantially planar substrate is configured to determine at least one characteristic of the substantially planar substrate from at least some of a plurality of displacement values taken along a line of contact with the substantially planar substrate by the movable caliper fingers. Dunlavey discloses the at least one set of complementary linear measuring devices.

With respect to the method as stated in claims 32 – 44 : The method for determining at least one dimensional value of a substantially planar substrate comprising the steps of establishing a plane parallel to which a substantially planar substrate is to be disposed; establishing a zero point location in or immediately adjacent the plane from which first and second opposing linear distances perpendicular to the plane may be measured; placing the substantially planar substrate parallel to the plane and with the zero point location located within the substantially planar substrate; and measuring the first and second opposing liner distances from the zero point location to each of two opposing sides of the substantially planar substrate in at least one location on the substantially planar substrate; further comprising the step of determining a thickness of the substantially planar substrate by adding the measured first and second opposing linear distances; wherein the at least one location comprises a plurality of predetermined locations; and further comprising the step of determining any warpage of the substantially planar substrate by comparing differences in at least some of the opposing, measured first and second linear distances from the zero point locations at different locations of the plurality of predetermined locations; determining any warpage of the substantially planar substrate by comparing differences in measured first linear distances from the zero point location at the different locations of the plurality of predetermined locations; selecting at least some of the predetermined locations of the plurality to be spaced along a longitudinal extent of the substantially planar substrate; wherein the at least some predetermined locations spaced along a longitudinal extent of the substantially planar substrate are selected to be adjacent a longitudinal edge of the substantially planar substrate; further comprising the step of selecting at least one

other location of the plurality on the substantially planar substrate to be spaced laterally from the at least some of the predetermined locations; wherein the plurality of predetermined locations comprises a substantially continuous path extending across at least a portion of the substantially planar substrate; also including the step of measuring the first and second linear distances by measuring displacements of first and second opposing elements in contact with the opposing sides of the substantially planar substrate; establishing the zero point location as a location of mutual contact of the first and second opposing elements without interposition of the substantially planar substrate therebetween; biasing the first and second opposing elements toward mutual contact the workpiece and passing the substantially planar substrate between the first and second opposing elements while measuring the displacements thereof on a plurality of predetermined locations on the substantially planar substrate as stated in claims 33 – 44 will be met during the regular operation of the apparatus disclosed by Dunlavey.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2859

4. Claims 30 – 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunlavay (US 3,528,002).

Dunlavay discloses an apparatus as stated in paragraph 2 above.

Dunlavay do not disclose the plurality of sets of complementary linear measuring devices as stated in claims 30 – 31.

In regards to claims 30 – 31 : Dunlavay discloses a system having a set of two oppositely oriented complimentary linear measuring devices (70, 80). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide a plurality of sets of complimentary linear measuring devices (70, 80), since it has been held that the mere duplication of the essential working parts of a device involves only routine skill in the art. St. Regis Paper Co. v. Bemis Co., 193 USPQ 8. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide a plurality if sets of complimentary linear measuring devices in order to increase the accuracy of the system by allowing for continuous data acquisitions at multiple locations along the length of the article.

5. Claims 15 and 19 – 20 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Dunlavay (US 3,528,002) in view of Gardopee et al. (US 6,242,926).

Dunlavay discloses an apparatus as stated in paragraph 2 above.

Dunlavay do not discloses the robotic gripper as stated in claims 15 and 20. Dunlavay do not disclose the calculation device comprising a computer, a memory and at least one output device as stated in claim 19.

Regarding claims 15 and 20 : Gardopee et al. discloses a system comprising a robotic gripper (12) for holding and transporting the article in an automated fashion in order to minimize error and time and thus reducing processing costs. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to add a robotic gripper as taught by Gardopee et al. to the system disclosed by Dunlavay in order to provide a holding and transporting the article in an automated fashion in order to minimize error and time and thus reducing processing costs.

With regards to claim 19 : Gardopee et al. teaches a method and apparatus for measuring a planar article comprising a master controller (40) and a controller (50) including a computer (62) further comprising a memory/storage device (60) and at least one output device (i.e., display, see column 4, line 42) in order to provide a mechanism to precisely move the article relative to the measuring probes and make the measurements at pre-selected time intervals (See Column 4, lines 45 – 50). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to add a calculation device as taught by Gardopee et al. to the system disclosed by Dunlavay in order to optimize the system by

providing a mechanism to precisely move the article relative to the measuring probes and make the measurements at pre-selected time intervals (See Column 4, lines 45 – 50).

Response to Arguments

6. Applicant's arguments, see pages 10 – 14 of remarks, filed May 2, 2005, with respect to the rejection(s) of claim(s) 1 - 44 under USC 102 and USC 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Dunlavey and Gardopee et al.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yaritza Guadalupe McCall whose telephone number is (571)272-2244. The examiner can normally be reached on 8:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F.F. Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Yaritza Guadalupe-McCall

Patent Examiner

Art Unit 2859

YGM
May 26, 2005